

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 1, line 28 with the following amended paragraph:

A problem with molding substantially-finished vials is that acrylic, the material predominantly used for making molded vials, does not stretch well. If one attempts manufacture of an acrylic vial which has thick walls (for breakage resistance), the stretch-resisting characteristic of acrylic causes breakage of core pins used in the injection molding process. On the other hand, a thin-wall vial is much more subject to breakage--builder's levels often receiving receive rough treatment in use.

Please amend the paragraph at page 3, line 19 with the following paragraphs:

Another object of the invention is to provide a new method which results in a vial wall which is smooth and coextensive.

How these and other objects are accomplished will become apparent from the following descriptions and from the drawings.

Please replace the paragraph at page 4, line 6 with the following amended paragraph:

In one embodiment the invention is a method of forming a vial for use in a level, the method comprising providing a cylinder comprised of a first material and having an inner surface defining a cavity; molding a second material around the cylinder; machining the inner surface to a desired shape state; and positioning a bubble in the cavity.

Please replace the paragraph at page 5, line 7 with the following amended paragraph:

The method may further include putting indicia on the cylinder before the second material is molded around the cylinder to form a sleeve. Such indicia may relate to degrees of pitch, logarithmic information, or other relevant information and may be of the same material as the marker rings. The placement of the marker ring and/or indicia between the cylinder and the sleeve allows the inner surface of the cylinder to be solely comprised of the first material. The inner surface is preferably machined such that the cavity is barrel-shaped. Such machining is facilitating by the uniformity of the inner surface composition.

Please replace the paragraph at page 5, line 20 with the following amended paragraph:

In an embodiment of the improvement the vial includes indicia positioned on the outer surface, the indicia bounded by the cylinder and the sleeve. The indicia may be hot stamped, laser printed or otherwise embedded into or positioned on the outer surface of the cylinder but, like the marker marking rings, does not extend through the inner surface.

Please replace the paragraph at page 6, line 3 with the following amended paragraph:

The invention also includes a vial for use with a level with the vial formed by providing a cylinder having an inner surface defining a cavity; molding a second material (a sleeve) around the cylinder; machining the inner surface to a desired shape state; and positioning a bubble in the cavity. It is preferred that the cylinder be molded and have an outer surface with at least one marker ring positioned on or embedded into the outer surface such that the second material is molded around the at least one marker ring and the marker ring is enclosed by the first material and second material. Most preferably two marker rings are provided equidistant to the intended position of the maximum diameter of the cavity.

Please replace the paragraph at page 7, line 3 with the following amended paragraph:

FIGURE 2 is a front elevation of a cylinder and marker marking rings in accordance with the principles of an embodiment of the present invention.

Please replace the paragraph at page 7, line 7 with the following amended paragraph:

FIGURE 4 is a cross section view of a cylinder with marker marking rings, the cylinder being positioned on a core pin and inserted into a mold with a second material molded over the cylinder in accordance with the principles of an embodiment of the present invention.

Please replace the paragraph at page 8, line 5 with the following amended paragraph:

FIGURE 2 is a front elevation of a cylinder 20 and marker marking rings 40 used to form a vial 10. Cylinder 20 extends from first end 24 to second end 25 and includes an inner surface 21 (see FIGURE 3) defining a cavity 22. Cylinder 20 is preferably a transparent plastic, most preferably polycarbonate. As shown in FIGURE 3, marker marking rings 40 are embedded into the outer surface 23 of cylinder 20. ~~The dimension of the marking ring 40 is~~ Rings 40 may be comprised of foil hot stamped into cylinder 20, ink or pigment printed onto cylinder 20 or other materials positioned on outer surface 23 through other methods. Rings 40 do not penetrate inner surface 21. Rings 40 may be a foil comprising metal, a thermoset material or a thermoplastic with a high melting temperature or ink, pigment or other material.

Please replace the paragraph at page 8, line 15 with the following amended paragraph:

FIGURE 4 is a cross section view of a cylinder 20 with marker marking rings 40 positioned on a representative core pin 60 and inserted into a representative mold 70 where a material 30 is flowed around cylinder 20 to form a sleeve 31 30 molded over the cylinder 20. As is understood, material 30 is injected or otherwise forced through port 71 into the space between mold 70 and cylinder 20 30 and rings 40. Material 30 is preferably heated and flows into such space before cooling and hardening to form sleeve 31 30. Sleeve 31 30 and cylinder 20 are both preferably transparent acrylic and are bound together such that the interface therebetween is indistinguishable.

Please replace the paragraph at page 8, line 23 with the following amended paragraph:

In the preferred method, the cylinder 20 is formed first, preferably with a core pin and a first mold. Then marker marking rings 40 or indicia 41 may be hot stamped, printed, or otherwise embedded in or positioned on the outer surface 23 of cylinder 20. After such application of rings or indicia, cylinder 20 is positioned on core pin 60 and is positioned in mold 70 which is larger than the first mold. A flowable material 30, such as heated acrylic, is then injected flowed into the space between mold 70 and the cylinder 20 and rings 40 or indicia 41, if present on outer surface 23. Cylinder 20 is preferably cooled by core pin 60 to prevent it from reaching its melting point from contact with material 30. It is preferred that cylinder 20 and material 30 have the same composition of acrylic. After injection, second Second material 30 then cools, hardens, and forms sleeve 31 30 around cylinder 20. At this point, the overmolded dual component vial 10 has sufficient thickness to be machined without risking breakage; therefore, vial 10 is removed from core pin 60 and the inner surface 21 of cylinder 20 is machined such that the cavity 22 is of a desired shape, specifically curvilinear or barrel-shaped.

Please replace the paragraph at page 9, line 6 with the following amended paragraph:

As is clearly evident in the dual component vial 10, marker marking rings 40 are not exposed to cavity 22 nor to the external environment. Due to this design, creation of the desired shape of cavity 22 in cylinder 20 does not require specialized machining in which both the first material and the marker marking rings are machined. Furthermore, rings 40 cannot be damaged during normal use of the level 11.

Please replace the paragraph at page 9, line 11 with the following amended paragraph:

This method also avoids human error in the placement of marker marking rings at the proper position in the vial since the stamping procedure consistently positions the rings on vials.

Please replace the paragraph at page 9, line 14 with the following amended paragraph:

FIGURE 5 is a cross section view of the finished overmolded vial 10 after it is removed from the mold 70 and core pin 60, partially filled with liquid 51, and capped. Inner surface 21 has been machined to form the desired barrel-shape in which the cavity 22 has a maximum diameter 27. First end closure Closure 12 has been formed during the molding process. The cavity has then been partially filled with liquid 51 and its end 25 has been capped with second end closure[[s]] 13 to seal cavity 22. Bubble 50 is shown at the maximum diameter 27 between the marker marking rings 40.

Please replace the paragraph at page 13, line 3 with the following amended paragraph:

A vial for use in a level and a method of forming such a vial are disclosed. The vial includes a cylinder having an inner surface defining a cavity, and a material molded around the cylinder. The vial preferably includes at least one marker ring positioned between the cylinder first and the material second materials. The method comprises providing the cylinder; molding a material around the cylinder; machining the inner surface to a desired shape state; and positioning a bubble in the cavity.